

Work Order ID 120628

\*120628\*

Page 1

Monday, June 09, 2014 9:30:21 AM

Item ID: 647.4010 Accept \*N900040100\* Setup Start \*NS1\*  
 Revision ID: Stop \*NS2\*  
 Item Name: Wiper Deflector RH  
 Start Date: 7/18/2014 Start Qty: 10.00 \*10\* Cust Item ID:  
 Required Date: 7/18/2014 Req'd Qty: 10.00 \*10\* Customer:  
 Reference:

Approvals: Process Plan: CL Date: 14/06/09 Tooling: \_\_\_\_\_ Date: \_\_\_\_\_ Run Start \*NR1\*  
 QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_ Stop \*NR2\*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
647.4000	B								

100 0.00  
 \*100\*  
 Purchasing Memo 0.00  
 Purchasing

110 Receive & Inspect for Damage & Mat'l Certs 0.00  
 \*110\*  
 Packaging Memo 0.00  
 Packaging

180 0.00  
 \*180\*  
 QC Memo 0.00  
 Quality Control

QC9 inspect welds. →  
 QC5- Inspect part completeness to step on W/O 0.00  
 QC6 →

DAS  
24  
9-89

AUG 13 2014 10

DAS  
24  
9-89

AUG 13 2014 10

*Pyg/pe (10)*

*D*

DQA: \_\_\_\_\_ Date: \_\_\_\_\_



## WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: \_\_\_\_\_ Date: \_\_\_\_\_

Work Order update only ☐

Work Order: _____  Part No. _____  NCR No. _____	<b>DISPOSITION</b>  Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/> Suspected Unapproved <input type="checkbox"/>	<b>702 13 001 AGAINST DEPARTMENT/PROCESS</b>  <table style="width: 100%;"> <tr> <td>Skid-tube <input type="checkbox"/></td> <td>Crosstube <input type="checkbox"/></td> <td>Water Jet <input type="checkbox"/></td> <td>Engineering <input type="checkbox"/></td> </tr> <tr> <td>Machining <input type="checkbox"/></td> <td>Small Fab <input type="checkbox"/></td> <td>Prod. Eng. Coord. <input type="checkbox"/></td> <td>Quality <input type="checkbox"/></td> </tr> <tr> <td>Thermoforming <input type="checkbox"/></td> <td>Finishing <input type="checkbox"/></td> <td>Rec/Store/Packaging <input type="checkbox"/></td> <td>Other <input type="checkbox"/></td> </tr> <tr> <td>Large Fab <input type="checkbox"/></td> <td>Composite <input type="checkbox"/></td> <td>Supplier <input type="checkbox"/></td> <td></td> </tr> </table>	Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>	Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Prod. Eng. Coord. <input type="checkbox"/>	Quality <input type="checkbox"/>	Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Other <input type="checkbox"/>	Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Supplier <input type="checkbox"/>	
Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>															
Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Prod. Eng. Coord. <input type="checkbox"/>	Quality <input type="checkbox"/>															
Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Other <input type="checkbox"/>															
Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Supplier <input type="checkbox"/>																

Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design									
Doc/Data									
Equip/Tooling									
Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

### FAULT CATEGORY

<b>Landing Gear</b> <input type="checkbox"/> Bending <input type="checkbox"/> Centre Not Concentric <input type="checkbox"/> Cracks <input type="checkbox"/> Crimp/Kink/Ripple/Wave <input type="checkbox"/> Cuffs <input type="checkbox"/> Crushing <input type="checkbox"/> Heat Treat <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Marks/Chatter <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube	<b>General</b> <input type="checkbox"/> Bend <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damage/Defect <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Countersink <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Drawing <input type="checkbox"/> Drill Holes <input type="checkbox"/> Finish <input type="checkbox"/> Fit/Function	<input type="checkbox"/> Folio/Program <input type="checkbox"/> Grain <input type="checkbox"/> Hardware <input type="checkbox"/> Inspection Incomplete/Unqualified <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Misaligned/off center <input type="checkbox"/> Mislabeled <input type="checkbox"/> Misread <input type="checkbox"/> Off-set <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence	<input type="checkbox"/> Outside Dimensions <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Incorrect <input type="checkbox"/> Part Lost/Missing <input type="checkbox"/> Part Moved <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Power Loss/Surge	<input type="checkbox"/> Pressure/Forced <input type="checkbox"/> Set-up <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled <input type="checkbox"/> Other
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**Work Order ID 120628**

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**\*120628\***

Page 2

Item ID: 647.4010 Accept **\*N900040100\*** Setup Start **\*NS1\***  
Revision ID: Stop **\*NS2\***  
Item Name: Wiper Deflector RH  
Start Date: 7/18/2014 Start Qty: 10.00 **\*10\*** Cust Item ID:  
Required Date: 7/18/2014 Req'd Qty: 10.00 **\*10\*** Customer:  
Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_ Run Start **\*NR1\***  
QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_ Stop **\*NR2\***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
190		0.00							
<del>*100*</del>									
SprayPaint	Memo	0.00							
Spray Painting	Prime as per dwg (see note 4)								
	Batch: _____								
200	QC14- Inspect Spray Paint	0.00							
<del>*200*</del>									
QC	Memo	0.00							
Quality Control									
210	Receive & Inspect for Damage & Mat'l Certs	0.00							
<del>*210*</del>									
Packaging	Memo	0.00							
Packaging	ISSUE P/O: <u>24517</u>								
100	SUPPLIER: SOUTHLAND								
	C OF C IS REQUIRED								

Handwritten notes: *N/A*, *DAS 38 9-89*, *14/08/13*, *CX 14/10/09 10*, *10X*, *identify: CCK27*

AUG 13 2014

DAS  
28  
9-89

DQA: \_\_\_\_\_ Date: \_\_\_\_\_



## WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: \_\_\_\_\_ Date: \_\_\_\_\_

Work Order update only ☐

Work Order: _____  Part No. _____  NCR No. _____	<b>DISPOSITION</b>  Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/> Suspected Unapproved <input type="checkbox"/>	<b>AGAINST DEPARTMENT/PROCESS</b>  <table style="width:100%;"> <tr> <td>Skid-tube <input type="checkbox"/></td> <td>Crosstube <input type="checkbox"/></td> <td>Water Jet <input type="checkbox"/></td> <td>Engineering <input type="checkbox"/></td> </tr> <tr> <td>Machining <input type="checkbox"/></td> <td>Small Fab <input type="checkbox"/></td> <td>Prod. Eng. Coord. <input type="checkbox"/></td> <td>Quality <input type="checkbox"/></td> </tr> <tr> <td>Thermoforming <input type="checkbox"/></td> <td>Finishing <input type="checkbox"/></td> <td>Rec/Store/Packaging <input type="checkbox"/></td> <td>Other <input type="checkbox"/></td> </tr> <tr> <td>Large Fab <input type="checkbox"/></td> <td>Composite <input type="checkbox"/></td> <td>Supplier <input type="checkbox"/></td> <td></td> </tr> </table>	Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>	Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Prod. Eng. Coord. <input type="checkbox"/>	Quality <input type="checkbox"/>	Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Other <input type="checkbox"/>	Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Supplier <input type="checkbox"/>	
Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>															
Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Prod. Eng. Coord. <input type="checkbox"/>	Quality <input type="checkbox"/>															
Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Other <input type="checkbox"/>															
Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Supplier <input type="checkbox"/>																

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Doc/Data									
Equip/Tooling									
Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

### FAULT CATEGORY

<b>Landing Gear</b> <input type="checkbox"/> Bending <input type="checkbox"/> Centre Not Concentric <input type="checkbox"/> Cracks <input type="checkbox"/> Crimp/Kink/Ripple/Wave <input type="checkbox"/> Cuffs <input type="checkbox"/> Crushing <input type="checkbox"/> Heat Treat <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Marks/Chatter <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube	<b>General</b> <input type="checkbox"/> Bend <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damage/Defect <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Countersink <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Drawing <input type="checkbox"/> Drill Holes <input type="checkbox"/> Finish <input type="checkbox"/> Fit/Function	<input type="checkbox"/> Folio/Program <input type="checkbox"/> Grain <input type="checkbox"/> Hardware <input type="checkbox"/> Inspection Incomplete/Unqualified <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Misaligned/off center <input type="checkbox"/> Mislabeled <input type="checkbox"/> Misread <input type="checkbox"/> Off-set <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence
		<input type="checkbox"/> Outside Dimensions <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Incorrect <input type="checkbox"/> Part Lost/Missing <input type="checkbox"/> Part Moved <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Power Loss/Surge
		<input type="checkbox"/> Pressure/Forced <input type="checkbox"/> Set-up <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled <input type="checkbox"/> Other

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Page 3

Item ID: 647.4010 Accept **\*N900040100\*** Setup Start **\*NS1\***  
Revision ID: Stop **\*NS2\***  
Item Name: Wiper Deflector RH  
Start Date: 7/18/2014 Start Qty: 10.00 **\*10\*** Cust Item ID:  
Required Date: 7/18/2014 Req'd Qty: 10.00 **\*10\*** Customer:  
Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_ Run Start **\*NR1\***  
QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_ Stop **\*NR2\***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
220	QC21- Final Inspection - Work Order Release	0.00							
<b>*220*</b>									
QC	Memo	0.00							
Quality Control									

MLJ 14-08-15  
MLJ 14-08-15

DQA: \_\_\_\_\_ Date: \_\_\_\_\_



## WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: \_\_\_\_\_ Date: \_\_\_\_\_

Work Order update only ☐

Work Order: _____  Part No. _____  NCR No. _____	<b>DISPOSITION</b>  Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/> Suspected Unapproved <input type="checkbox"/>	<b>AGAINST DEPARTMENT/PROCESS</b>  <table style="width: 100%;"> <tr> <td>Skid-tube <input type="checkbox"/></td> <td>Crosstube <input type="checkbox"/></td> <td>Water Jet <input type="checkbox"/></td> <td>Engineering <input type="checkbox"/></td> </tr> <tr> <td>Machining <input type="checkbox"/></td> <td>Small Fab <input type="checkbox"/></td> <td>Prod. Eng. Coord. <input type="checkbox"/></td> <td>Quality <input type="checkbox"/></td> </tr> <tr> <td>Thermoforming <input type="checkbox"/></td> <td>Finishing <input type="checkbox"/></td> <td>Rec/Store/Packaging <input type="checkbox"/></td> <td>Other <input type="checkbox"/></td> </tr> <tr> <td>Large Fab <input type="checkbox"/></td> <td>Composite <input type="checkbox"/></td> <td>Supplier <input type="checkbox"/></td> <td></td> </tr> </table>	Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>	Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Prod. Eng. Coord. <input type="checkbox"/>	Quality <input type="checkbox"/>	Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Other <input type="checkbox"/>	Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Supplier <input type="checkbox"/>	
Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>															
Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Prod. Eng. Coord. <input type="checkbox"/>	Quality <input type="checkbox"/>															
Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Other <input type="checkbox"/>															
Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Supplier <input type="checkbox"/>																

Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design									
Doc/Data									
Equip/Tooling									
Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

### FAULT CATEGORY

<b>Landing Gear</b> <input type="checkbox"/> Bending <input type="checkbox"/> Centre Not Concentric <input type="checkbox"/> Cracks <input type="checkbox"/> Crimp/Kink/Ripple/Wave <input type="checkbox"/> Cuffs <input type="checkbox"/> Crushing <input type="checkbox"/> Heat Treat <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Marks/Chatter <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube	<b>General</b> <input type="checkbox"/> Bend <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damage/Defect <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Countersink <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Drawing <input type="checkbox"/> Drill Holes <input type="checkbox"/> Finish <input type="checkbox"/> Fit/Function	<input type="checkbox"/> Folio/Program <input type="checkbox"/> Grain <input type="checkbox"/> Hardware <input type="checkbox"/> Inspection Incomplete/Unqualified <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Misaligned/off center <input type="checkbox"/> Mislabeled <input type="checkbox"/> Misread <input type="checkbox"/> Off-set <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence
		<input type="checkbox"/> Outside Dimensions <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Incorrect <input type="checkbox"/> Part Lost/Missing <input type="checkbox"/> Part Moved <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Power Loss/Surge
		<input type="checkbox"/> Pressure/Forced <input type="checkbox"/> Set-up <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled <input type="checkbox"/> Other

# Picklist Print

Monday, June 09, 2014 9:30:20 AM

Page 1

Work Order ID: 120628

**\*120628\***

Parent Item: 647.4010

**\*647 4010\***

Parent Item Name: Wiper Deflector RH

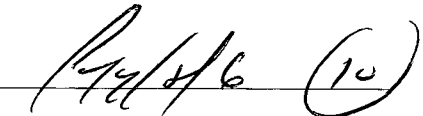
Start Date: 7/18/2014

Required Date: 7/18/2014

Start Qty: 10.00

Required Qty: 10.00

Comments: IPP REV:A 12.10.26 NEW ISSUE DD VERF:JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
647.4010P <b>*647 4010P*</b> Wiper Deflector RH		Purchased		No			Each	0.0000		10			
										**			

DQA: \_\_\_\_\_ Date: \_\_\_\_\_



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QA Closed: \_\_\_\_\_ Date: \_\_\_\_\_

Work Order update only ☐

Work Order: _____  Part No. _____  NCR No. _____	<b>DISPOSITION</b>  Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/> Suspected Unapproved <input type="checkbox"/>	<b>AGAINST DEPARTMENT/PROCESS</b>  <div style="display: flex; justify-content: space-between;"> <div>           Skid-tube <input type="checkbox"/>            Machining <input type="checkbox"/>            Thermoforming <input type="checkbox"/>            Large Fab <input type="checkbox"/> </div> <div>           Crosstube <input type="checkbox"/>            Small Fab <input type="checkbox"/>            Finishing <input type="checkbox"/>            Composite <input type="checkbox"/> </div> <div>           Water Jet <input type="checkbox"/>            Prod. Eng. Coord. <input type="checkbox"/>            Rec/Store/Packaging <input type="checkbox"/>            Supplier <input type="checkbox"/> </div> <div>           Engineering <input type="checkbox"/>            Quality <input type="checkbox"/>            Other <input type="checkbox"/> </div> </div>
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Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design									
Doc/Data									
Equip/Tooling									
Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

### FAULT CATEGORY

<b>Landing Gear</b> <input type="checkbox"/> Bending <input type="checkbox"/> Centre Not Concentric <input type="checkbox"/> Cracks <input type="checkbox"/> Crimp/Kink/Ripple/Wave <input type="checkbox"/> Cuffs <input type="checkbox"/> Crushing <input type="checkbox"/> Heat Treat <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Marks/Chatter <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube	<b>General</b> <input type="checkbox"/> Bend <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damage/Defect <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Countersink <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Drawing <input type="checkbox"/> Drill Holes <input type="checkbox"/> Finish <input type="checkbox"/> Fit/Function	<input type="checkbox"/> Folio/Program <input type="checkbox"/> Grain <input type="checkbox"/> Hardware <input type="checkbox"/> Inspection Incomplete/Unqualified <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Misaligned/off center <input type="checkbox"/> Mislabeled <input type="checkbox"/> Misread <input type="checkbox"/> Off-set <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence	<input type="checkbox"/> Outside Dimensions <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Incorrect <input type="checkbox"/> Part Lost/Missing <input type="checkbox"/> Part Moved <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Power Loss/Surge  <input type="checkbox"/> Pressure/Forced <input type="checkbox"/> Set-up <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled  <input type="checkbox"/> Other
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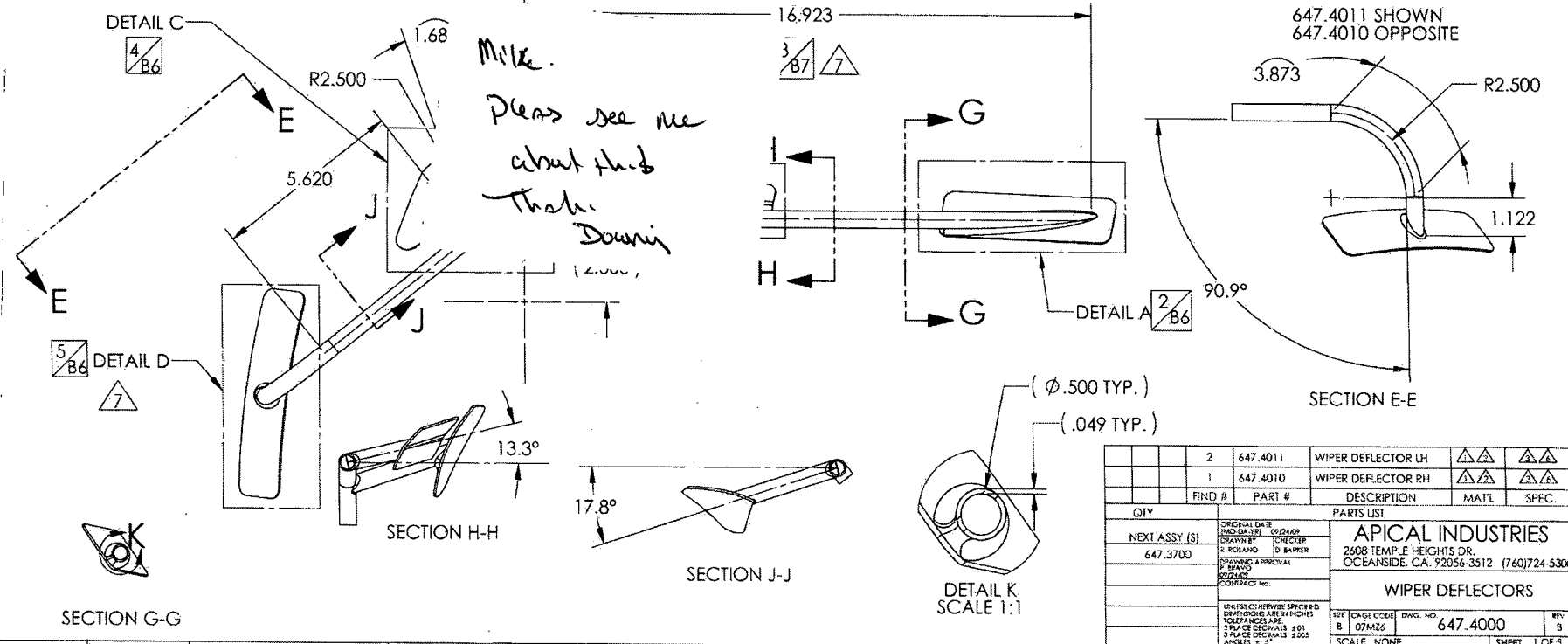


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NOTES: UNLESS OTHERWISE SPECIFIED

1. MATERIAL: 4130 STEEL PER AMS-S-18729, .06" THK
2. MATERIAL: 4130 STEEL PER AMS-T-6736, .50" OD, .049" THK
3. FINISH: PRIME IAW MIL-P-23377J TYPE I CLASS N; 1-2 MIL MAX
4. DEBURR AND BREAK ALL SHARP EDGES
5. IDENTIFY IAW MPP-120.
6. WELD IAW MIL-STD-2219. TIG WELD WITH FILLER ROD.
7. WILL BE TRIMMED AS NECESSARY TO FIT ON AIRCRAFT. PRIME AND PAINT PART AS NECESSARY AFTER TRIMMING.
8. ALL DIMENSIONS LISTED ARE AFTER PAINT AND PRIMER IS APPLIED.

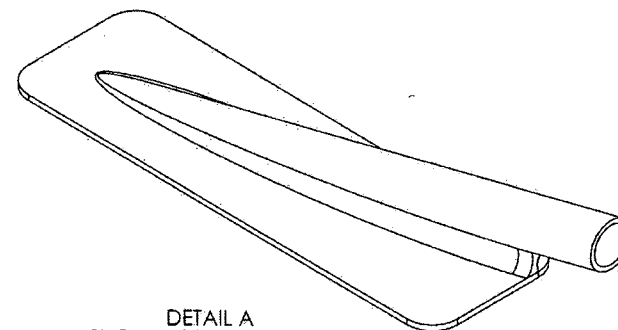
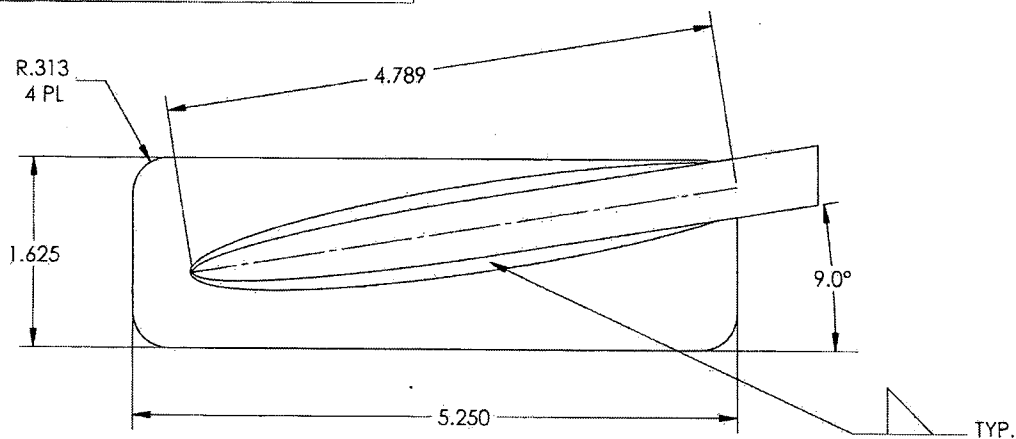
*CD 14/06/09*  
*W 10.120628*



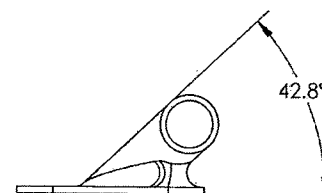
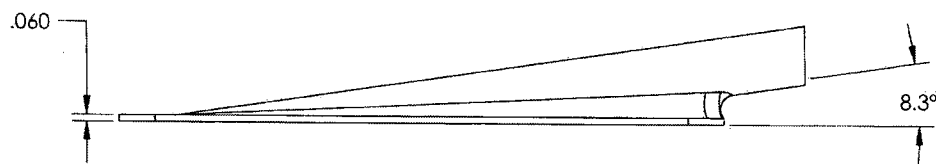
REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
N/C	LAST PROTOTYPE REVISION: P29		N/C
N/C	INITIAL RELEASE	09/24/09	P. BRAVO
A	INCORPORATED ECH 08441	03/20/12	P. BRAVO
B	INCORPORATED ECH 08512	05/14/12	P. BRAVO

QTY		PART #		DESCRIPTION		MATERIAL		SPEC.	
2	647.4011	WIPER DEFLECTOR LH							
1	647.4010	WIPER DEFLECTOR RH							
PARTS LIST									
APICAL INDUSTRIES									
2608 TEMPLE HEIGHTS DR.									
OCEANSIDE, CA. 92055-3512 (760)724-5300									
WIPER DEFLECTORS									
UNITED STATES GOVERNMENT SPECIFICATIONS ARE INCORPORATED BY REFERENCE		SEE (CAGE CODE)		DWG. NO.		REV.			
3 PLACE DECIMALS ± .01		B		07M26		647.4000		B	
ANGLES ± 5°		SCALE		NONE		SHEET		1 OF 3	

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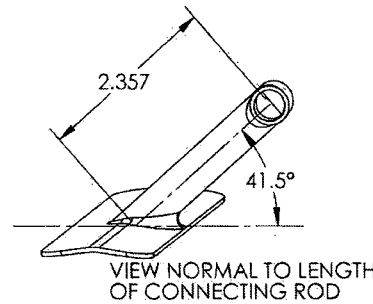
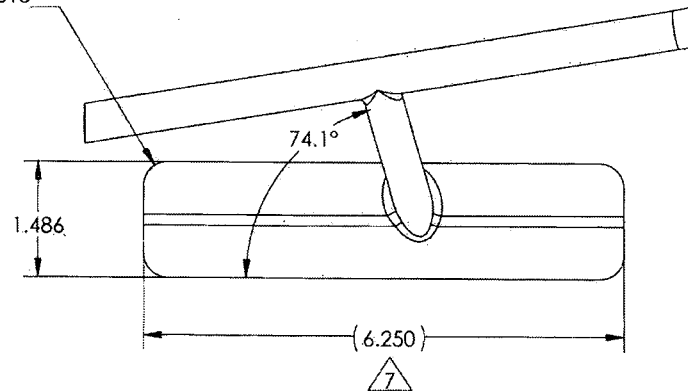
DETAIL A  
SHOWN ISOMETRICALLY



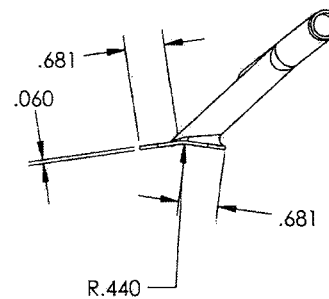
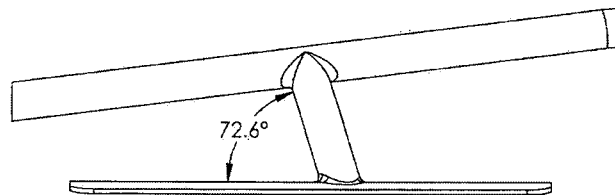
ORIGINAL DATE 10/24/91		APICAL INDUSTRIES	
DRAWN BY P. ROSANO		2608 TEMPLE HEIGHTS DR. OCEANSIDE, CA. 92056-3512 (760)724-5300	
CHECKED BY D. BARKER		WIPER DEFLECTORS	
APPROVED BY P. BRAVO		REV. B	
CONTRACT NO.		SCALE: NONE	
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: 2 PLACE DECIMALS ±.01 3 PLACE DECIMALS ±.005 ANGLES ±.5°		REV. B	SHEET 2 OF 5

THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF APICAL INDUSTRIES. ANY REPRODUCTION IN PART OR WHOLE WITHOUT THE WRITTEN PERMISSION OF APICAL INDUSTRIES IS PROHIBITED.

TRUE R.313  
4 PL



DETAIL B  
SHOWN ISOMETRICALLY



ORIGINAL DATE 2/10/84 BY DESIGNED BY R. POSALLO DRAWING APPROVAL R. POSALLO CONTRACT NO.		APICAL INDUSTRIES 2608 TEMPLE HEIGHTS DR. OCEANSIDE, CA. 92056-3512 (760)724-5300	
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: 2 PLACE DECIMALS ±.01 3 PLACE DECIMALS ±.005 ANGLES ±.5°		SIZE B	QTY 1
CAGE CODE 07M126		DWG. NO. 647.4000	REV. B
SCALE NONE		SHEET 3 OF 5	



Dart Aerospace Ltd.  
1270 Aberdeen Street  
Hawkesbury, ON K6A-1K7  
Tel: 613 632 9577  
Fax: 613 632 1053

## PURCHASE ORDER

Purchase Order ID **PO24517**

Purchase Order Date 6/9/2014

PO Print Date 6/9/2014

Page Number 1 of 2

**Order From :**

VU-SOU004

SOUTHLAND FABRICATION  
411 INDUSTRIAL WAY  
FALLBROOK, CALIFORNIA 92028

**Ship To :**

DART AEROSPACE LTD

1270 ABERDEEN  
HAWKESBURY, ON K6A 1K7  
CANADA

**FAXED**

**Contact Name**

**Vendor Phone** 760-723-4006

**Ship To Contact**

**Ship To Phone**

**Ship Via:** FedEx PI collect

**Ship Acct:**

**Buyer**

Chantal Lavoie

**Customer POID**

**Customer Tax #**

10127-2607

**Terms**

Net 30

**Currency**

USD

**FOB**

Destination-Collect

Line Nbr	Reference Vendor Part Number Line Comments Delivery Comments	Description/ Mfg ID	Req Date/ Taxable Promise Date	CD	Req Qty/ Unit of Measure	PO Unit Price	Extended Price
1	647.4010P  AS PER DWG 647.4010 B120628	Wiper Deflector RH	7/18/2014 Yes 7/18/2014	FN	10.00 Each	\$419.97	\$4,199.70
<b>Line Total:</b>							<b>\$4,199.70</b>
2	647.4011P  AS PER DWG 647.4011 B120629	Wiper Deflector LH	7/18/2014 Yes 7/18/2014	FN	10.00 Each	\$419.97	\$4,199.70
<b>Line Total:</b>							<b>\$4,199.70</b>

**Note:**

6/9/2014

**SOUTHLAND FABRICATION**  
**411 INDUSTRIAL WAY**  
**FALLBROOK, CA. 92028**

**PACKING SLIP**

**No : 00014350**

**To:** Dart Aerospace Ltd  
1270 Aberdeen Street

**Ship To:** Dart Aerospace Ltd  
1270 Aberdeen Street

Hawkesbury, ON K6A 1K7

Hawkesbury

ON K6A 1K7

Ship VIA	P.O. #	FOB	Date	Page
Fed Ex	PO24517	ORIGIN	08/04/2014	1

Quantity	Part Number	Rev	Job #
10	647.4011P Wiper Deflector RH	B	00013156
10	647.4010P Wiper Deflector RH	B	00013155

Received By: \_\_\_\_\_

Date: \_\_\_\_\_

Page : 1 of

0



411 Industrial Way  
Fallbrook, CA 92028  
Ph: 760-723-4006

## Certificate Of Compliance

**Date :** 08/04/2014

**Job No. :** 00013156

**Customer :** Dart Aerospace Ltd

**P.O. Number :** PO24517

**Part Number :** 647.4011P

B

**Quantity :** 10

**Description :** Wiper Deflector RH

We hereby certify that all parts and/or material supplied by us have been produced in conformance with all contractually applicable purchaser's specification as referenced in the purchase order and/or drawing(s) supplied.

**Date :** 08/04/2014

**Job No. :** 00013155

**Customer :** Dart Aerospace Ltd

**P.O. Number :** PO24517

**Part Number :** 647.4010P

B

**Quantity :** 10

**Description :** Wiper Deflector RH

We hereby certify that all parts and/or material supplied by us have been produced in conformance with all contractually applicable purchaser's specification as referenced in the purchase order and/or drawing(s) supplied.

By:

A handwritten signature in black ink, appearing to be "J. Smith", is written over a horizontal line.

Date:

8-11-14

# CERTIFICATE OF TEST



line 1  
PO 6550

Page 01 of 02

Certification Date  
18-JUN-2014

CUSTOMER ORDER NUMBER  
6550

E.M.J. - LOS ANGELES  
10650 S ALAMEDA ST  
LYNWOOD CA 90262

Invoice Number  
T219389

CUSTOMER PART NUMBER  
508667

SOLD TO: SOUTHLAND FABRICATION  
411 INDUSTRIAL WAY  
FALLBROOK CA 92028

SHIP TO: SOUTHLAND FABRICATION  
411 INDUSTRIAL WAY  
FALLBROOK CA 92028

Description: 4130 CR AQ SPH ANN OILED SHEETS - AMS 6351  
.063 X 36 X 144"  
HEAT: 134947  
ITEM: 508667  
Line Total: 92.5164 LB

Specifications:  
AMS 6351 J

AMS 6350 M

## CHEMICAL ANALYSIS

C	MN	P	S	SI	NI	CR	CU
0.31	0.5300	0.01	0.001	0.191	0.025	0.82	0.06
MO	V	SN	TI	AL	N		
0.16	0.002	0.001	0.004	0.026	0.008		

RCPT: R381328

VENDOR: CALSTRIP INDUSTRIES

COUNTRY OF ORIGIN : USA

## MECHANICAL PROPERTIES

DESCRIPTION	YLD STR	ULT TEN	%ELONG	%RED	HARDNESS
	PSI	PSI	IN 02 IN	IN AREA	RB
COND A	51400.0	72000.0	27.0		77

DEVELOPED HARDNESS 032 RC

BEND: Y

GRAIN SIZE : 8 -

\* The above data were transcribed from the manufacturer's Certificate of Test after verification for completeness and specification requirements of the information on the certificate. All test results remain on file subject to examination.

We hereby certify that the material covered by this report will meet the applicable requirements described herein, including any specification forming a part of the description.

The willful recording of false, fictitious, or fraudulent statements in connection with test results may be punishable as a felony under federal statutes.

Material did not come in contact with mercury while in our possession.

TIM DONOFRIO

MANAGER, QUALITY ASSURANCE

# CERTIFICATE OF TEST



Lined  
PO 6550

Page 02 of 02

Certification Date  
19-JUN-2014

CUSTOMER ORDER NUMBER  
6550

E.M.J. - LOS ANGELES  
10650 S ALAMEDA ST  
LYNWOOD CA 90262

Invoice Number  
S976545

CUSTOMER PART NUMBER

SOLD TO: SOUTHLAND FABRICATION  
411 INDUSTRIAL WAY  
FALLBROOK CA 92028

SHIP TO: SOUTHLAND FABRICATION  
411 INDUSTRIAL WAY  
FALLBROOK CA 92028

Description: 4130 CDS TUBING AMS T 6736 COND N;  
.500 OD X .049 W (.402 ID) X 17/24' R/L Line Total: 220 FT  
HEAT: 580615 ITEM: 100046

MATERIAL IS FREE FROM MERCURY CONTAMINATION  
NO WELD REPAIR PERFORMED ON MATERIAL  
DECARB: OK  
AMS NO :2301  
SEVERITY :0.029  
FREQUENCY:0.049

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TIM DONOFRIO

MANAGER, QUALITY ASSURANCE



# CERTIFICATE OF TEST



Line 2  
fo 6550

Page 01 of 02

Certification Date  
19-JUN-2014

CUSTOMER ORDER NUMBER

6550

E.M.J. - LOS ANGELES

10650 S ALAMEDA ST  
LYNWOOD CA 90262

Invoice Number

S976545

CUSTOMER PART NUMBER

SOLD TO: SOUTHLAND FABRICATION

411 INDUSTRIAL WAY  
FALLBROOK CA 92028

SHIP TO:

SOUTHLAND FABRICATION

411 INDUSTRIAL WAY  
FALLBROOK CA 92028

Description: 4130 CDS TUBING AMS T 6736 COND N;

.500 OD X .049 W (.402 ID) X 17/24' R/L

Line Total: 220 FT

HEAT: 580615

ITEM: 100046

Specifications:

AMS T 6736 B

MIL T 6736 B

AMS 6360 M

AMS 6371 K

## CHEMICAL ANALYSIS

C	MN	P	S	SI	AL	CR	MO
0.32	0.54	0.005	0.002	0.27	0.035	0.90	0.19
NI	PB	CU	V	TI	SN		
0.13	0.001	0.12	0.002	0.002	0.011		

RCPT: R281024

VENDOR: PLYMOUTH TUBE

COUNTRY OF ORIGIN : USA

## MECHANICAL PROPERTIES

DESCRIPTION	YLD STR	ULT TEN	%ELONG	%RED	HARDNESS
	PSI	PSI	IN 02 IN	IN AREA	RC
	123037.0	127940.0	18.0		25

GRAIN SIZE : 10 -

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TIM DONOFRIO

MANAGER, QUALITY ASSURANCE

# CERTIFICATE OF TEST



Page 02 of 02

Certification Date  
18-JUN-2014

CUSTOMER ORDER NUMBER  
6550

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CUSTOMER PART NUMBER  
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SOLD TO: SOUTHLAND FABRICATION  
411 INDUSTRIAL WAY  
FALLBROOK CA 92028

SHIP TO: SOUTHLAND FABRICATION  
411 INDUSTRIAL WAY  
FALLBROOK CA 92028

Description: 4130 CR AQ SPH ANN OILED SHEETS - AMS 6351  
.063 X 36 X 144" Line Total: 92.5164 LB  
HEAT: 134947 ITEM: 508667

DECARB: OK  
AMS NO :2301  
SEVERITY :0.0  
FREQUENCY:0.0

COMMENTS  
MELTED & MFG IN USA

The above data were transcribed from the manufacturer's Certificate of Test after verification for completeness and specification requirements of the information on the certificate. All test results remain on file subject to examination.

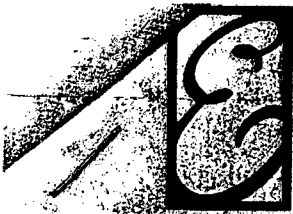
We hereby certify that the material covered by this report will meet the applicable requirements described herein, including any specification forming a part of the description.

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Material did not come in contact with mercury while in our possession.

TIM DONOFRIO

MANAGER, QUALITY ASSURANCE



**ELITE METAL FINISHING**  
2525 Jason Court Oceanside, CA 92056  
T 760.597.8725 F 760.597.8728

# Certificate of Conformance

DATE	WORK ORDER NO.
7/30/2014	86098

Ship To

Southland Fabrication  
411 Industrial Way  
Fallbrook, CA 92028

PURCHASE ORDER NO.	TERMS
00006633	2% 10 Net 30

ITEM	QTY.	DESCRIPTION	SPECIAL INSTRUCTIONS
647 4010	11	Prime, upper deflector	<input type="checkbox"/> Expedite
647 4011	10	Prime Paint per P.O.	<input checked="" type="checkbox"/> Will Call
Surcharge	1	8% Environmental Waste Fee	<input type="checkbox"/> Our Truck
Apical Primer	1	Prime w/De-Soto MIL P-23377 LA W/BMS 10-79 Type III Class A, Grade A	<input type="checkbox"/> UPS
			<input type="checkbox"/> Incoming Inspection _____
			<input type="checkbox"/> Stripping _____
			<input type="checkbox"/> Bead Blast _____
			<input type="checkbox"/> Ultrasonic Clean _____
			<input type="checkbox"/> Masking _____
			<input type="checkbox"/> Masking Due _____
			<input type="checkbox"/> Plugging _____
			<input type="checkbox"/> Plugging Due _____
			<input type="checkbox"/> Plating Due to Paint _____
			<input type="checkbox"/> Contract Review <input checked="" type="checkbox"/>
			<input type="checkbox"/> Other _____
			<input type="checkbox"/> Due Date _____
			<input type="checkbox"/> Final Inspect <i>[Signature]</i>

## CERTIFICATE OF CONFORMANCE:

Elite Metal Finishing certifies that the indicated processes were performed and inspected in accordance with the manufacturer's specification.

All claims must be made within 5 working days.

Received by: *[Signature]*

Date: *8-1-14*

## Eric Downing

---

**From:** Pablo Bravo  
**Sent:** Monday, August 11, 2014 2:52 PM  
**To:** Eric Downing  
**Cc:** Patrick Smith; Nigel Forbes; Michael Gregoire  
**Subject:** RE: 647.4010

Eric,  
This is acceptable.

Regards,

Pablo

---

**From:** Eric Downing  
**Sent:** Monday, August 11, 2014 11:43 AM  
**To:** Pablo Bravo  
**Cc:** Patrick Smith; Nigel Forbes; Michael Gregoire  
**Subject:** 647.4010  
**Importance:** High

Good afternoon Pablo

I have a set of 647.4010 & 647.4011 wiper deflectors (RH & LH) that our manufacture used primer **DeSoto MIL-P-23377 IAW BMS 10-79 Type III Class A, Grade A** and we ask for on your drawings Prime IAW MIL-P-23377J Type I Class N.

Is the primer used by our supplier a suitable replacement? Please let me know.

Thanks

**Eric Downing**  
**QC Coordinator**  
T: 1-613-632-5200 ext 223  
C: 1-613-363-9375  
F: 1-613-632-5246  
[www.dartaero.com](http://www.dartaero.com)  
[Edowning@Dartaero.com](mailto:Edowning@Dartaero.com)

